



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,237	08/28/2003	Sebastian Bierwirth	TRW(AS)6716	6394

7590 06/22/2004

TAROLLI, SUNDHEIM, COVELL, TUMMINO & SZABO L.L.P.
1111 LEADER BLDG.
526 SUPERIOR AVENUE
CLEVELAND, OH 44114-1400

EXAMINER

JOHNSON, STEPHEN

ART UNIT	PAPER NUMBER
----------	--------------

3641

DATE MAILED: 06/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/650,237

Applicant(s)

BIERWIRTH ET AL.

Examiner

Stephen M. Johnson

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-15 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/2003; 1/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 3641

1. This application contains claims directed to the following patentably distinct species of the claimed invention: Species A is illustrated in fig. 1-2. Species B is illustrated in figs. 3-4. Species C is illustrated in figs. 5-6. Species D is illustrated in fig. 7.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.

Applicant is advised that a reply to this requirement **must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added.** An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Art Unit: 3641

2. The drawings are objected to because holes 70 (see page 6, line 25) have not been illustrated. Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 1, use of the phrase "preferably tubular outer housing" makes the claim indefinite as to whether or not a tubular outer housing must be present to infringe the claims. In claim 1, lines 8-9, use of the phrase "a preferably radial ignition transfer opening" makes the claim indefinite as to whether or not a radial ignition transfer opening must be present to infringe the claims. In claims 2-15, use of the phrase "characterized in that" makes the claim

Art Unit: 3641

indefinite. Apparatus claims should be claimed in terms of the associated structural elements and their inter-arrangement and not some characterization thereof. In claim 2, line 2, what the term "its" is intended to reference is indefinite. In claim 6, line 2, what the term "its" is intended to reference is indefinite. In claim 7, line 2; and in claim 11, lines 1-2; the phrase "said combustion chamber wall" lacks an antecedent. In claim 13, lines 2-3, the phrase "said inner face" lacks an antecedent. In claim 15, line 4, the phrase "said central axis" lacks an antecedent.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-7 are rejected under 35 U.S.C. 102(e) as being anticipated by Freesmeier.

Freesmeier discloses a gas generator comprising:

- | | |
|---|---------------------|
| a) a housing with contained combustion chamber; | 32 |
| b) a solid propellant; | 118 |
| c) an igniter unit; | 152, 154, 122, 132 |
| d) said igniter unit arranged laterally and externally; | see fig. 5 |
| e) an ignition transfer opening; and | contains 114 |
| f) a distribution space. | between 106 and 124 |

6. Claims 1-6 are rejected under 35 U.S.C. 102(e) as being anticipated by Rink et al..

Rink et al. disclose a gas generator comprising:

- | | |
|---|----|
| a) a housing with contained combustion chamber; | 54 |
|---|----|

Art Unit: 3641

- b) a solid propellant; 121
- c) an igniter unit; 104, 106
- d) said igniter unit arranged laterally and externally; see fig. 2 or 3
- e) an ignition transfer opening; and between 106 and 121
- f) a distribution space. adjacent 115

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Bailey et al..

Bailey et al. disclose a gas generator comprising:

- a) a housing with contained combustion chamber; 42
- b) a solid propellant; 78
- c) an igniter unit; 44, 58, 60
- d) said igniter unit arranged laterally and externally; see fig. 2
- e) an ignition transfer opening; contains 64
- f) a distribution space; and between 42 and 46
- g) an insert. 74

9. Claims 1-10 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Cook et al..

Cook et al. disclose a gas generator comprising:

Art Unit: 3641

- a) a housing with contained combustion chamber; 20, 22
- b) a solid propellant; 98, 118
- c) an igniter unit; 92, 112
- d) said igniter unit arranged laterally and externally; see fig. 1
- e) an ignition transfer opening; contains 96, 116
- f) a distribution space; adjacent 96, 116
- g) an insert; and 120, 110
- h) outflow openings opposite said ignition transfer opening. 44, 48

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Siddiqui in view of Cuevas.

Siddiqui discloses a gas generator comprising:

- a) at least one housing; 12
- b) a combustion chamber; 30
- c) a solid propellant; 24, 40
- d) an igniter unit; 20, 26
- e) said igniter unit arranged laterally; see fig. 1
- f) an ignition transfer opening; contains 26
- g) a distribution space; between 24, 26

Art Unit: 3641

- h) an insert; 30
- i) said insert has an entire surface against the housing; see fig. 2
- j) an expansion space; and contains 42
- k) ignition transfer openings. 14

Siddiqui applies as recited above. However, undisclosed is an igniter unit arranged external to the housing. Cuevas teaches an igniter unit arranged external to the housing (see fig. 1). Applicant is substituting one location for an igniter unit for another in an analogous art setting. It would have been obvious to a person of ordinary skill in this art at the time of the invention to apply the teachings of Cuevas to the Siddiqui gas generator and have a gas generator whose igniter is in a different location.

12. Claims 12-14 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

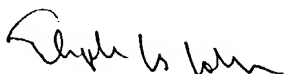
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Dinsdale et al., Siddiqui et al., Castagner et al., Hayashi et al., Lauritzen et al., Jonsson et al., Beau, and Japan 4-87859 disclose other state of the art gas generators.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen M. Johnson whose telephone number is 703-306-4158. The examiner can normally be reached on Tuesday through Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 703-306-4198. Any inquiry of a general nature or relating to the status of this

Art Unit: 3641

application or proceeding should be directed to the receptionist whose telephone number is 703-306-4177.

The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9326. The fax phone number for after final communications is (703) 872-9327.



STEPHEN M. JOHNSON
PRIMARY EXAMINER

Stephen M. Johnson
Primary Examiner
Art Unit 3641

SMJ